

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listing, of claims in the application:

Listing of Claims:

1. (Cancelled)

2. (Previously Presented) A method for transmitting an encrypted message from a first transmitter-receiver to a second transmitter-receiver, forming a communicating pair, the method comprising the steps of:

(a) encrypting, by the first transmitter-receiver using a first encryption device, a previous transmission received from the second transmitter-receiver, wherein said first encryption device is selected randomly from a group consisting of a plurality of pseudo-random number generators, a plurality of elliptic curve cryptosystems, a plurality of discrete-logarithm (RSA) cryptosystems, and a plurality of symmetric-key cryptosystems;

(b) encrypting, by the first transmitter-receiver using said first encryption device, a reference to a previous transmission sent to the second transmitter-receiver;

(c) sending, by the first transmitter-receiver, said encrypted previous transmission and said encrypted reference to the second transmitter-receiver;

(d) receiving, by the second transmitter-receiver, said encrypted previous transmission and said encrypted reference;

(e) discovering, by the second transmitter-receiver, said first encryption device;

(f) decrypting, by the second transmitter-receiver using said first encryption device, said encrypted reference;

(g) decrypting, by the second transmitter-receiver using said first encryption device, said encrypted previous transmission;

(h) accessing, by the second transmitter-receiver, said encrypted previous transmission;

(i) encrypting, by the second transmitter-receiver using said first encryption device, said previous transmission;

24 (j) sending, by the second transmitter-receiver, said encrypted previous transmission
to the first transmitter-receiver;

26 (k) receiving, by the first transmitter-receiver, said encrypted previous transmission;

28 (l) decrypting, by the first transmitter-receiver using said first encryption device, said
encrypted previous transmission;

30 (m) confirming, by the first transmitter-receiver, the correctness of said previous
transmission;

32 (n) reporting, by the first transmitter-receiver, confirmation of said previous
transmission to the second transmitter-receiver; and

34 (o) encrypting, by the first transmitter-receiver using said first encryption device, a
current message.

3. (Canceled)

4. (Previously Presented) The method according to claim 2 further comprising the steps

2 of:

4 selecting said previous transmission received from the second transmitter-receiver from a
group consisting of a last message sent by the second transmitter-receiver, a predetermined
6 portion of the last message sent by the second transmitter-receiver, and a prespecified internal
data that is generated by the communicating pair that is independent of message content.

5. (Previously Presented) The method according to claim 2 further comprising the steps

2 of:

4 selecting said previous transmission sent to the second transmitter-receiver from a group
6 consisting of a previous referenced message sent to the second transmitter-receiver, a
predetermined portion of a previous referenced message sent to the second transmitter-receiver,
and a prespecified internal data that is generated by the communicating pair that is independent
of message content.

6. (Previously Presented) The method according to claim 2 wherein said discovering

2 step (e) further comprises the step of:

4 using sequentially, by the second transmitter-receiver, each of a plurality of
cryptographic devices of the second transmitter-receiver, to attempt to decrypt said reference to a

previous transmission sent to the second transmitter-receiver until said reference to a previous
6 transmission is recovered, thus identifying said first encryption device.

7. **(Previously Presented)** The method according to claim 6 further comprising the steps
2 of:

4 after discovering said first encryption device, challenging the first transmitter-receiver by
the second transmitter-receiver to further provide evidence of an authenticity of the first
transmitter-receiver.

8. **(Previously Presented)** The method according to claim 2 further comprising the steps
2 of:

4 sending, by the first transmitter-receiver, said encrypted current message to the second
transmitter-receiver.

9. **(Currently Amended)** A method for transmitting an encrypted message from a first
2 transmitter-receiver to a second transmitter-receiver, forming a communicating pair, the method
comprising the steps of:

4 (a) furnishing the communicating pair with a plurality of cryptographic devices for
6 encrypting and decrypting a message to be exchanged between the communicating pair, wherein
8 said plurality of cryptographic devices are a group consisting of a plurality of pseudo-random
number generators, a plurality of elliptic curve cryptosystems, a plurality of discrete-logarithm
(RSA) cryptosystems, and a plurality of symmetric-key cryptosystems;

10 (b) collaborating by the first transmitter-receiver with the second transmitter-receiver
12 to establish a one-time cryptographic pad for encrypting said message, said collaborating further
comprising:

14 (b1) exchanging information regarding internal data, as stored in internal data
16 10-structures, and states that are private and common to the communicating pair and are
independent of the content of transmitted messages; and

18 (b2) negotiating an agreement on a cryptographic device from said plurality of
cryptographic devices to be used to encrypt and decrypt said message; and

(c) preparing, by the first transmitter-receiver, the message for transmission by
18 encrypting said message with said cryptographic device.

10. (Canceled)

11. (Previously Presented) The method according to claim 9 further comprising the
2 steps of:

3 sending, by the first transmitter-receiver, said encrypted message to the second
4 transmitter-receiver.

12. (Currently Amended) A communicating pair system, the system comprising:

2 a first transmitter-receiver having a first encryption device, wherein said first encryption
3 device is selecting randomly-selected from a group consisting of a plurality of pseudo-random
4 number generators, a plurality of elliptic curve cryptosystems, a plurality of discrete-logarithm
(RSA) cryptosystems, and a plurality of symmetric-key cryptosystems;

6 a second transmitter-receiver in communication with said first transmitter-receiver;

8 a previous transmission received by said first transmitter-receiver from said second
transmitter-receiver, wherein said first transmitter-receiver encrypts said previous transmission
with said first encryption device; and

10 a reference to a previous transmission sent to said second transmitter-receiver by said
first transmitter-receiver, wherein said first transmitter-receiver encrypts said reference to a
12 previous transmission with said first encryption device, and said first transmitter-receiver sends
said encrypted previous transmission and said encrypted reference to a previous transmission to
14 said second transmitter-receiver;

16 wherein said second transmitter-receiver discovers said first encryption device and,
utilizing said first encryption device, said second transmitter-receiver decrypts said encrypted
18 reference to a previous transmission and decrypts said encrypted previous transmission, accesses
said previous transmission, encrypts said previous transmission with said first encryption device,
and sends said encrypted previous transmission to said first transmitter-receiver, where said first
20 transmitter-receiver decrypts said encrypted previous transmission with said first encryption
device and confirms the correctness of said previous transmission, reports said confirmation to
22 said second transmitter-receiver, and encrypts a current message with said first encryption
device.

13. (Canceled)

14. **(Previously Presented)** The system according to claim 12 wherein said previous
2 transmission received by said first transmitter-receiver is selected from a group consisting of a
last message sent by the second transmitter-receiver, a predetermined portion of the last message
4 sent by the second transmitter-receiver, and a prespecified internal data that is generated by the
communicating pair that is independent of message content.

15. **(Previously Presented)** The system according to claim 12 wherein said reference to
2 a previous transmission sent to the second transmitter-receiver is selected from a group
consisting of a previous referenced message sent to the second transmitter-receiver, a
4 predetermined portion of a previous referenced message sent to the second transmitter-receiver,
and a prespecified internal data that is generated by the communicating pair that is independent
6 of message content.

16. **(Previously Presented)** The system according to claim 12 wherein said first
2 transmitter-receiver sends said encrypted current message to said second transmitter-receiver.